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Approved
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INTER-OFFICE CORRESPONDENCE
MANITOWOC PUBLIC UTILITIES, MANITOWOC, WISCONSIN

TO: MPU COMMISSIONERS
FROM: NILAKSH KOTHARI NK
DATE: NOVEMBER 9, 2012
SUBJECT: **DIESEL #2 EMERGENCY GENERATION DESIGNATION IN MISO**

By May 2013, MPU's diesel generator, Diesel #2 (D2), will be required to comply with the U.S. EPA's RICE-NESHAP rules (generally, subpart ZZZZ of part 63 CFR). One potential issue remains (noted below), pending the outcome of a Proposed Settlement Agreement which would modify emergency demand-response run-hour limitations under RICE-NESHAP. It should also be noted that under MPU's current air permit, certain additional activities will be required for emergency-generator operation.

Overview

In its current condition, D2 does not meet the CO emissions standards under the new rule and bringing the unit into compliance would require capital investment in a CO catalyst of approximately $75,000 plus installation. Due to additional DNR rules, the CO catalyst investment would still only permit limited use (100 hours).

If the decision is made to not make the investment to bring the generator into compliance with RICE-NESHAP, the two options are: 1) retirement of the unit, or 2) retention of the unit for its continued lifespan as an emergency generator. The decision between these two options largely depends on the issue of if/how an emergency-only generator can be effectively utilized under the MISO Tariff; cost of replacement capacity and remaining life of the unit.

Emergency Generators under MISO

A behind-the-meter generator (BTMG) can be registered either as a DRR (demand response resource) Type II or as a LMR (load-modifying resource). DRRs operate in the Energy and Operating Reserve (EOR) market. Given the emergency-only operation to which D2 would be limited, DRR registration (operationally identical to its current Generator registration) would not be viable.

Registering as an LMR, however, would match the unit's more limited capabilities and would also retain the use of its capacity, as LMRs are considered Capacity Resources. Moreover, the capacity of an LMR is applied as a demand-side reduction, thus additionally reducing MPU's resource adequacy requirement further by a factor of the planning reserve margin (PRM).

LMRs are "dispatched" by MISO only in emergencies. Upon registration, an LMR identifies its run-time capability (minimum of four hours) and is required to respond when called for the first five commitments by MISO during summer, unless unavailable for legitimate force majeure. LMRs do not have a must-offer requirement, but are "compensated" through a reduction of day-ahead load purchases by the amount of load reduction (not by a direct LMP-based payment).

MISO's Emergency Demand Response initiative is governed by Schedule 30 of the Tariff. By also registering D2 as an EDR, MPU could further modify the unit's dispatch and compensation to more favorable conditions. EDRs are further back in MISO's supply stack (i.e. LMRs are called before EDRs) and are only called upon during a declared EEA-2 or EEA-3 event. In addition, EDRs make a daily curtailment offer based on cost of operation (not to exceed $3500/MWh). If committed, an EDR is paid the greater of LMP and its offer price (effectively a make-whole guarantee).

Registration as LMR and EDR

- D2 would become BTMG (WPS.LAKEFRN92 GenNode disappears from MISO market topology);
- GVTC and GADS reporting requirements continue as previously;
- LMR registration by 1 Feb prior to Planning Year (re-registration required annually);
- D2 removed as a designated Network Resource (necessary for EDR registration).

In addition to demonstrating that D2 is not a DNR (noted above), MPU would have to demonstrate 1) ownership or effective rights tantamount to ownership and 2) possession of necessary permits for operation.

Potential Issue

Under RICE-NESHAP as it currently stands, an emergency generator is limited to 15 hours of emergency demand response runtime. MISO requires up to five summer responses (if called upon) for the agreed duration (minimum four hours). Thus, registering as an LMR could potentially require 20 hours of runtime (5 commitments of 4 hours), which would violate the "non-emergency" limit of 15 hours under RICE. The pending Proposed Settlement Agreement would modify the RICE limit to the lesser of 60 hours or the minimum requirement of an ISO's emergency demand response program (which eliminates the potential issue).

DNR Air Permit Requirements

Under MPU's current air permit for D2, transition to emergency-generator status triggers additional requirements, which consist primarily of oil changes, air cleaner inspections, hose/belt inspections and minimization of idling during start-up/shut-down.

Recommendation

The recommendation is to retain Diesel #2 in service for its remaining economic life as an emergency generator under RICE provisions and be re-registered with MISO as a Load-Modifying Resource (LMR) and Emergency Demand Response resource (EDR).

Please advise if any questions. Your approval is requested.

Thank you.

Memo prepared by David England, Power Supply Analyst